

ABSTRACT

A material feed system for solid freeform fabrication. The build material is delivered in discrete or quantized amounts by the feed system in a non-flowable state to the dispensing device and the material is then changed to a flowable state prior to being dispensed. The feed system can be used to build three-dimensional objects in color, if desired. In one embodiment individual cartridges with build material are loaded into a magazine on the feed system which is integrated with a waste removal system. As the build material is expelled from the cartridges, waste material is deposited into the cartridge. Once all the build material has been expelled, the waste material is hermetically sealed in the spent cartridge which is then ejected from the system. The hermetically sealed cartridges protect operators from contact with the reactive waste material making the system safe for the office environment.